Information Technology: Reliable Information for Better Health Programs

Public health officials need rapid access to critical information—lab results, disease reports, birth certificates, accounting records. They all rely on technology to gather information, send it where it is needed, and store it securely.

Technology continues to advance at great speed, and the potential impact on better health is tremendous. Lab tests that once took weeks to complete now take hours. With e-mail, health officials can alert one another immediately about new health threats. With electronically generated spreadsheets, graphs, and geographic information systems, they can analyze vast quantities of data quickly to identify an epidemic or dispel worries.

But the information revolution presents a serious challenge to the public health system. New technology is expensive and complicated, and it requires continuous maintenance. Keeping up with technology has become a necessary burden through all sectors of government. Every purchase decision requires research and review, installation, and training and oversight. Some technologies require local governments—which operate independently from one another and from the state government—to invest in compatible computers, phones, and video equipment.

Training will be crucial. Technology competency will be a growing share of the job for every public health worker. The state government must be prepared to invest in compatible computers, phones, and video equipment.

Protecting access to data represents another challenge to the state's public health system. Data security is both expected and legally mandated. The public health system must establish secure, confidential data transfer capacity as a routine part of business. It will need to purchase data security systems and ensure that employees are trained in the use of systems and data confidentiality protocols.

System-wide investment is essential. This is difficult to achieve because the public health system is highly decentralized, involving 34 separate local government agencies. Without coordinated strategies, the disparity among local agencies will increase, making capacity gaps wider; small, rural health departments, with fewer resources, will likely be left behind. The result will be weaker public health protection overall.

Washington's public health officials have agreed to develop a systematic approach to using technology, applying data, and coordinating resources. The work of the PHIP Information Technology Committee is focusing efforts to give public health

"Public health depends on good information. We're making major improvements in the way we use technology to collect and organize efficient, reliable data."
—Public Health Information and Technology Committee Member Sherri McDonald (Director, Thurston County Public Health and Social Services Department)

Instant Disease Reporting with PHIMS

Imagine filling out one electronic form and sending it off with the click of a mouse rather than struggling with 51 paper forms and figuring out which state public health offices to send them to. That moment has arrived in Washington, thanks to the state Department of Health's new uniform system—the Public Health Issue Management System (PHIMS)—a secure, electronic disease surveillance system designed to streamline public health reporting practices.

Washington state law requires local health jurisdictions to report disease outbreaks or conditions of major public health significance to the Department of Health. PHIMS, a dynamic and adaptable case reporting tool, also supports quality improvement efforts and standards for disease surveillance by prompting—on a disease-specific basis—the correct questions for investigators to ask at the appropriate point in time.

officials, health care providers, policy makers, and citizens throughout Washington the information they need to make healthy decisions. The progress to date includes:

Moving VistaPH to the web

The web-based Vital Statistics for Public Health (VistaPHw) software is a standardized tool for community health assessment, providing more people with access to health data across the Washington State public health system. Assessment staff, health officials, and their partners use this tool to identify their communities' important health issues to set local prevention priorities and guide policy decisions. As a web application, VistaPHw allows for efficient updates of public health data.

Testing and implementing PHIMS statewide

In early 2003, all local health departments will be able to use the Public Health Issue Management System (PHIMS), which recently completed pilot-testing. State and local health departments will use the standard electronic forms to record information when tracking disease outbreaks. Using PHIMS will increase the speed and accuracy of disease reporting and provide a way to identify emerging disease issues (see box, this page).

Conducting a technology inventory

A detailed technology inventory is under way. For the first time, public health officials will know what machines and software are in use across the state. The information will help coordinate purchasing recommendations, target training, and support state-level information technology decisions linked with demonstrated local needs.

Building an electronic data surveillance system

As Washington's public health system acquires new technology, it is building a surveillance system. This step requires long-range planning and coordination across all health care sectors: public health, laboratories, hospitals, providers, and local and state government. Working now to establish common data standards and operating platforms should ensure seamless communication in the future.

For more information about Information Technology:

Public Health Information and Technology Committee Page
http://www.doh.wa.gov/phip/InfoTech.htm

VISTA Public Health Data
http://www.doh.wa.gov/OS/Vista/HOMEPAGE.HTM

Recommendations for 2003-2005

1. Define a basic level of information technology capacity for all health departments.

   To function as an effective system, every local jurisdiction and the state must have basic, compatible technology and the skills to use it. This should include capacity for computer-based surveillance, geographic mapping, and skills to post health alerts on line and analyze data.

2. Assure that the public health workforce has the ability to participate in computer-based training and emergency communication drills.

   Our ability to use technology well—at the moment it is needed—will rest on our level of preparation. Public health officials must be able to use a range of tools, including video, audio, and computer-based technology. Training and testing equipment is an essential part of assuring that we are ready to respond effectively in an emergency.

3. Implement standard data security procedures, install software and equipment, and share protocols for data management and data access system-wide.

   With the rapid increase in the use of electronic methods to collect, transmit, and store information, data security is increasingly important. Coordinating efforts in this area will promote efficiency and set firm standards for assuring confidentiality and data quality.

4. Develop data standards.

   The quality of information available to public health officials depends on everyone using the same names and definitions for thousands of words and ideas. Achieving this consistency is a complex task and requires sustained attention and evaluation.

5. Continue information technology coordination throughout the public health system, with a focus on investments, connectivity, and development of on-line information technology assessments.

   The technology resources used to support public health efforts need to be maintained statewide, updated regularly, and evaluated on a continuous basis. By coordinating efforts, agencies can save money, assure continuous communication capacity, document gaps, and identify ways to share resources.